

Amendment to the Drawings:

The attached sheet of drawings includes changes to Figure 6 (FIG. 6). This sheet replaces the original Figure 6.

Copies of missing Figures 3 and 8b are submitted herewith with a copy of the Letter to the Official Draftsperson which incorporates the changes required by the Examiner. Approval by the Examiner is respectfully requested.

REMARKS

Claims 38 and 39 have been cancelled. The claims remaining in the application are 1-37 and 40-111.

Duplicate Claims

Claims 38 and 39, which are substantial duplicates of claims 25 and 26, have been cancelled.

Rejection Under 35 USC 112

The Examiner has rejected claims 1-49 and 60-107 under 35 USC 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. This rejection is respectfully traversed.

The Examiner regards the term “long-term preservation” as relative, rendering these claims indefinite. It must be granted that this term is, by its nature, difficult to define with any specificity. It must also be acknowledged that it would be very difficult to put a precise definition on the concept of “long-term” as this relates to data storage. Instead, the specification makes repeated distinctions between conventional data storage on data storage media such as magnetic and optical storage devices, which have a limited life-span, and the alternative preservation media needed for preserving data beyond this limited period. For example, conventional data storage media are described as providing “limited term solutions that allow retrieval of backed-up digital data for a period of approximately 5 to 10 years” (p. 1, lines 18-20). The goal for digital data preservation, as provided by the present invention, is to allow “usability of the data for periods extending decades or even hundreds of years into the future” (p. 1, lines 23-24). The “projected life span of preservation media” is stated as being “expected to last for hundreds of years” (p. 1, line 25). With this and similar statements, the Background of the specification explicitly contrasts conventional digital storage and archival with long-term preservation, as this term is used in claim 1 and similar claims.

The system of the present invention is specified to use preservation-quality media that “provides long-term data preservation, with considerably more reliability and longer life span than is possible with conventional magnetic or optical media” (p. 22, lines 10-13). The media type given as an example is film (p. 26 lines 21-22), for example, KODAK Archive Storage Media 3459, which is rated to have a life-span well in excess of 100 years.

It must be observed that the same difficulty in pinning down the concept of “long-term” was also faced in the Lorie ‘309 disclosure cited by the Examiner. Lorie ‘309 gives 100 years as an example of a time span for executing the virtual computer instructions disclosed as the solution in that patent. The Smith et al. ‘296 disclosure also cited by the Examiner gives 100 years as an exemplary target or threshold value, with no further specificity. Further, the thrust of claims in the present application do not depend on precise definition of “long-term” or any specific threshold for long-term duration. It is, rather, the combination of components for long-term preservation on human-readable media that is the gist of the present invention.

Rejections Under 35 USC 103

The Examiner has rejected claims 1-5, 8-12, 14, 17-20, 23-39, 41, 44, 47-58, 60-74, 77-78, 80-93, 96-97, 99, and 100-111 under 35 USC 103(a) as unpatentable over U.S. Patent No. 6,691,309 to Lorie in view of U.S. Patent Application No. 2001/0056429 to Moore et al. This rejection is respectfully traversed.

The Lorie ‘309 disclosure is directed to the development of a Universal Virtual Computer (UVC) for enabling recovery of long time archived digital information. This type of solution is not incompatible with the present invention, but, because it is directed to the design of a logic processor and its control software, does not address the problem of long-term preservation in human-readable format, independent of a hardware solution. The focus of the Lorie ‘309 disclosure is in maintaining data usability by processing methods. The thrust of the present invention, in contrast, is to address the problem of the preservation of the data itself, independent of future hardware and processing solutions. While attention must be paid to possible future hardware and processing solutions, the present invention focuses on preserving the data records in human-readable form.

The Moore et al. ‘56429 disclosure relates to a self-described infrastructure-independent logical representation of data objects. While the data representation methods described in the Moore et al. ‘56429 application would be compatible with a digital preservation system as claimed in the present invention, these methods relate to processor-independent data formats, rather than to recording the data records themselves in human-readable form.

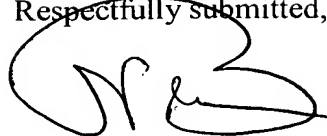
The Examiner has rejected claims 6-7, 13, 15-16, 21-22, 40, 42-43, 45-46, 59, 75-76, 79, 94-95, 98, and 100 under 35 USC 103(a) as unpatentable over U.S. Patent No. 6,691,309 to Lorie in view of U.S. Patent Application No.

2001/0056429 to Moore et al and further in view of U.S. Patent No. 6,442,296 to Smith et al. This rejection is respectfully traversed.

The Smith et al. '296 disclosure is directed to document storage in human and machine-readable format. The documents described in the Smith et al. '296 disclosure may include images and text as well as document metadata. However, unlike the method and apparatus of the present invention, the Smith et al. '296 disclosure does not address the storage of the digital data itself. The human-readable component noted in the Smith et al. '296 patent relates to image and text content that is "human-readable" in the sense that it relates to visual information in the document. Digital data is still stored in binary form, without being expressed in human-readable form. The present invention, meanwhile, focuses on preserving data records, which can include encoded data for images and text as well as encoded binary data in visual form. As noted on p. 12, lines 19-23, the method and apparatus of the present invention can store any type of data record, not only conventional data used for display of formatted text or images, but also such binary data as a compiled operating system. The method of the present invention provides independence of the preserved data from any type of logic processing (independent of the UVC disclosed by Lorie '309) and provides encoding of binary data itself in human-readable form (in a manner not disclosed by Smith et al. '296). While there are necessarily some common concerns expressed in the Lorie '309, Moore et al. '56429, and Smith et al. '296 disclosures, neither of these disclosures suggest the human-readability of data records identified and claimed in the present application.

This human-readability of any type of stored data, as described and claimed in the present invention, represents a significant difference between the present invention and the prior art and provides advantages that would complement, but are not suggested by, any of the Lorie '309, Moore et al. '56429, and Smith et al. '296 disclosures singly or in combination.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

Enclosures: Annotated Sheet Showing Changes to Figure 6
 Copy of Letter to the Draftsperson
 Copy of Formal Drawings

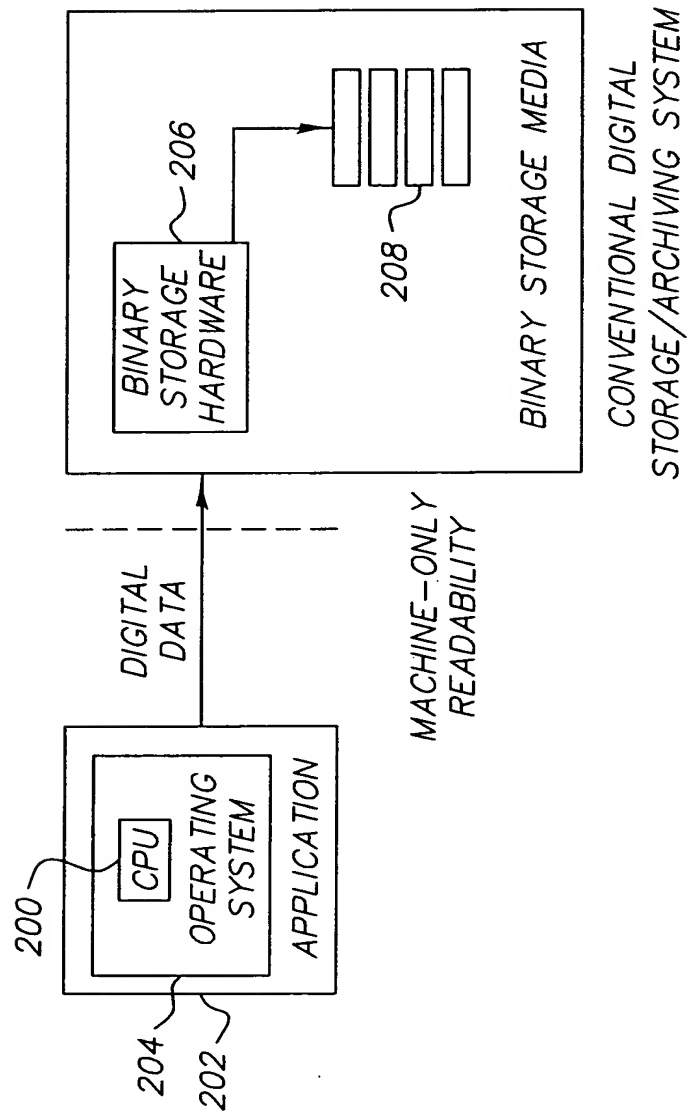


FIG. 6
PRIOR ART